

ment of the present invention. In FIG. 1, the fold-type portable data terminal 1 includes CPU 11, first sensor 12, second sensor 13, swivel sensor 14, operation section 15, function history storage section 16, LCD (Liquid Crystal Display) section 17, softkey management section 18, and application section 19. Illustration of a radio section, a power supply section, etc. which are not directly related to description of the present exemplary embodiment as well as the explanation thereof is omitted in FIG. 1.

[0040] FIGS. 2 to 5 are perspective views showing each shape (mode) of the fold-type portable data terminal 1 according to the one exemplary embodiment of the present invention. In FIG. 2, the fold-type portable data terminal has a fold-type housing 20, has two or more side keys 21 on the side surface of the housing 20, and has a logo 25 on the front surface. The fold-type housing 20 has the first sensor 12 which detects whether or not the fold-type housing 20 is in a folded position (first closed position). FIG. 3 shows the fold-type housing 20 in an open position where the receiver housing (first housing member) 20a is opened from a microphone housing (second housing member) 20b by 90 degrees. The receiver housing 20a includes on the front surface thereof a second sensor 13 which detects whether or not the fold-type housing 20a is in the folded position (second closed position), and a LCD 17. The first sensor 12 detects that the receiver housing 20a is in the first closed position if the receiver housing 30a is in a swivel position at a swiveled angle of zero degree, whereas the second sensor 13 detects that the receiver housing 20a is in a second closed position, wherein the receiver housing 20a is opened with respect to the microphone housing in an angular position of 90 degrees from the first closed position shown in FIG. 2, swiveled therefrom into a swiveled position at a swivel angle of 180 degrees and again closed to the receiver housing. The microphone housing 20b includes on the front surface thereof a keyboard 22, and includes on the side surface thereof the side keys 21 as described before. The keyboard 22 and side keys 21 configure the operational section 15. FIG. 4 shows that fold-type housing in the state wherein the receiver housing 20a is in the swiveled position at a swivel angle of 180 degrees, whereas FIG. 5 shows the receiver housing 20a in a second closed position wherein the receiver housing is closed in the swiveled state at a swivel angle of 180 degrees.

[0041] The CPU 11 manages the overall control of the fold-type portable data terminal 1, and the first sensor 12 detects the event in which the receiver housing 20a is normally opened or closed from/to the microphone housing 20b by way of hinge 23. The second sensor 13 detects the even tin which the receiver housing 20a is opened or closed from the 180-degree-swiveled state thereof, whereas the swivel sensor 14 detects that the receiver housing 20a is in a swivel state of 0 degree or 180 degrees.

[0042] The operational section 15 executes various types of key operations, and the function history storage section 16 stores therein the history of functions used for each shape. The LCD 17 performs display of a function history menu 24 as well as an ordinary screen image, and the softkey management section 18 manages the functions allocated to the side keys 21 as well as the history menu 24 displayed on the LCD. The application section 19 realizes TV (Television) function, FM (Frequency Modulation) radio function, and Internet browsing function.

[0043] FIG. 6 is a flowchart which shows the processing of detecting the shape change of the fold-type portable data

terminal 1 according to the one exemplary embodiment of the present invention, and FIGS. 7 and 8 are charts showing a screen transition on the LCD 17 of FIG. 1. With reference to those FIGS. 1 to 8, the storage operation for the function history at each shape of the fold-type portable data terminal 1 according to the one exemplary embodiment of the present invention will be described.

[0044] First, in the fold-type portable data terminal 1, the CPU 11 judges whether or not the fold-type housing 20 is in the state (the first closed position shown in FIG. 2), wherein the fold-type housing is closed with the LCD 17 being inner side, based on the result of detection by the first sensor 12 (step S1 in FIG. 6), and judges the state wherein the receiver housing 20a is closed in the first closed position with the LCD 17 being inner side as the state of "shape 0" (step S2 in FIG. 6).

[0045] When a read function of the current time instant is operated by the side key 21, for example, in this state of "shape 0", the CPU 11 stores the read function of the current time instant as a function history of "shape 0" in the function history storage section 16. If the function history is set effective without any condition, the function history is started upon a shift to "shape 0", although the available functions are limited in this case because the LCD 17 cannot be observed in the fold-type portable data terminal 1 of the present embodiment.

[0046] If the receiver housing 20a is subsequently opened from the state of shape 0, the fact that the receiver housing 20a is opened is transmitted to the CPU 11 by the first sensor 12. In this case, the CPU 11 judges whether or not the swiveled amount is zero degree based on the result of detection by the swivel sensor 14 (step S3 in FIG. 6), and judges the state of "shape 1" if zero degree is recognized (step S4 in FIG. 6).

[0047] If the application section 19 transmits a mail, for example, in this state of "shape 1", the CPU 11 stores the mail transmission operation as a function history of the "shape 1" in the function history storage section 16. It is assumed here that the initial state of each shape has a default priority function, and the default function is replaced by the used function.

[0048] If the receiver housings 20a is swiveled by 180 degrees from the above state, the fact that the receiver housings 20a is swiveled by 180 degrees is transmitted to the CPU 11 by the swivel sensor 14. In this case, the CPU 11 judges whether or not a 180-degree swivel has occurred based on the result of detection by the swivel sensor 14 (step S5 in FIG. 6), and judges the state of "shape 2" shown in FIG. 4 if a 180-degree swivel has occurred (step S6 in FIG. 6).

[0049] If the application section 19 selects a function of photographing by camera in this state of "shape 2", the CPU 11 stores the selection operation of the function of photographing by camera as a function history at "shape 2" in the function history storage section 16. Here, in the detection operation by the swivel sensor 14 as to the 0-degree or 180-degree state in FIG. 3, it is possible to detect the 0-degree or 180-degree swivel amount by disposing two lead switchers at different positions, using a magnet located at a left-right asymmetry thereto and adjacent to the swivel sensor 14 of the receiver housing 20a, and judging which one of the lead switches is ON.

[0050] Although FIG. 3 does not illustrate the camera section, it may be disposed at the rear side of the microphone housing 20b etc. If the receiver housing 20a is at a swivel mount of 0 degree upon photographing by camera, a normal mode wherein the scenery or other person is to be photo-